

Safety TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

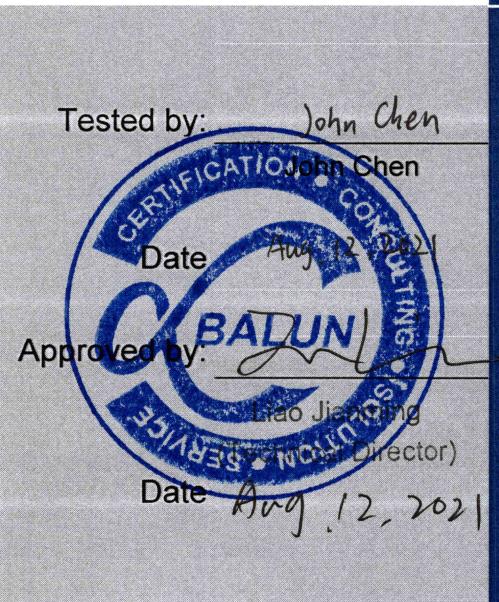


FOR

Hub M2

ISSUED TO
Konec Home Pty Ltd

Suite 5.02 level 5 15 Talavera Road Macquarie Park NSW 2113
Australia



Report No.:	BL-SZ2140980-101
EUT Name:	Hub M2
Model Name:	HM2-G01
Brand Name:	Aqara
Test Standard:	IEC 62368-1:2014 AS/NZS 62368.1:2018
Test conclusion:	Pass
Test Date:	Apr. 27, 2021 ~ May 10, 2021
Date of Issue:	Aug. 12, 2021

NOTE: This test report of test results only related to the testing samples, which can be duplicated completely for the legal use with the approval of the applicant; it shall not be reproduced except in full, without the written approval of Shenzhen BALUN Technology Co., Ltd. BALUN Laboratory. Any objections should be raised within thirty days from the date of issue. To validate the report, please contact us.

Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong, P. R. China 518055
TEL: +86-755-66850100, FAX: +86-755-61824271
Email: qc@baluntek.com
www.baluntek.com

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Aug. 12, 2021</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	ADMINISTRATIVE DATA (GENERAL INFORMATION)	3
1.1	Identification of the Testing Laboratory.....	3
1.2	Identification of the Responsible Testing Location.....	3
1.3	Laboratory Condition.....	3
1.4	Announce.....	3
2	PRODUCT INFORMATION	4
2.1	Applicant Information.....	4
2.2	Manufacturer Information	4
2.3	Factory Information	4
2.4	General Description for Equipment under Test (EUT)	4
2.5	Ancillary Equipment.....	4
2.6	Technical Information	5
3	SUMMARY OF TEST	7
3.1	Test Standards.....	7
3.2	Possible test case verdict.....	7
3.3	Test item	8
3.4	General information.....	9
4	GENERAL TEST CONFIGURATIONS	13
4.1	Test Environments	13
4.2	Test Equipment List.....	13
5	TEST RESULTS	14
6	Product Marking Label.....	71
7	PHOTO DOCUMENT	72

1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province. P.R. China
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province. P.R. China
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20°C to 25°C
Ambient Relative Humidity	45% to 75%
Ambient Pressure	100kPa to 102kPa

1.4 Announce

- (1) The test report reference to the report template version v1.8.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Konec Home Pty Ltd
Address	Suite 5.02 level 5 15 Talavera Road Macquarie Park NSW 2113 Australia

2.2 Manufacturer Information

Manufacturer	Lumi United Technology Co., Ltd
Address	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	Hub M2
Model Name Under Test	HM2-G01
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V1.1.0
Software Version	3.0.6_0005.0515
Dimensions(Approx.)	N/A
Weight(Approx.)	0.127kg

2.5 Ancillary Equipment

N/A

2.6 Technical Information

The requirement for the following technical information of the EUT was tested in this report:

Ratings	Input: 5V== 1.0A/5V== 2.0A		
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present		
Supply Connection	<input type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input checked="" type="checkbox"/> External Circuit - not Mains connected - <input checked="" type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3		
Supply % Tolerance	<input type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> + _____ % / - _____ % <input checked="" type="checkbox"/> None		
Supply Connection – Type	<input type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> mating connector <input type="checkbox"/> other		
Considered current rating of protective device as part of building or equipment installation	<input type="checkbox"/> 16 A (20A for Canada and US); Location: <input type="checkbox"/> building <input type="checkbox"/> equipment <input checked="" type="checkbox"/> N/A		
Equipment mobility	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted		
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: not directly connect to mains		
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III		
Access location	<input type="checkbox"/> restricted access location <input checked="" type="checkbox"/> N/A		
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3		
Manufacturer's specified maximum operating ambient	50 °C		
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP _____		
Power Systems	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - _____ V L-L; <input type="checkbox"/> dc mains <input checked="" type="checkbox"/> N/A		
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000m or less <input type="checkbox"/> 5000 m		

Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000m or less <input type="checkbox"/> _____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 0.127kg
Note: The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.	

3 SUMMARY OF TEST

3.1 Test Standards

No.	Identity	Document Title
1	IEC 62368-1:2014	Audio/video, information and communication technology equipment –Part 1: Safety requirements
2	AS/NZS 62368.1:2018	Audio/video, information and communication technology equipment –Part 1: Safety requirements

3.2 Possible test case verdict

Possible test case verdicts:
-test case does not apply to the test object. : N/A
-test object does meet the requirement.....: P(Pass)
-test object does not meet the requirement..: F(Fail)

3.3 Test item

Tests performed (name of test and test clause):		Summary of compliance with National Differences: List of countries addressed:
5.2	Electrical energy source classifications	
5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems	1. AUSTRALIA / NEW ZEALAND
6.2.2	Electrical power sources (PS) measurements for classification	
6.2.3.2	Determination of Potential Ignition Sources (Resistive PIS)	
6.3, 6.4	Simulated abnormal operating and single fault conditions	
9.4.1	Equipment safeguards for thermal burn	
B.2.5	Input tests	
B.3 & B.4	Abnormal operating and fault condition tests	
F.3.9	Durability, legibility and permanence of markings	
Q.1.2	Limited power sources	
T.2	Steady force test, 10 N	
T.4	Steady force test, 100 N	
Annex T.7	Drop tests	
Annex T.8	Stress relief test	
Maximal ambient temperature as specified by the manufacturer: +50°C.		

3.4 General information

GENERAL REMARKS:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

GENERAL PRODUCT INFORMATION:

1. The equipment is an Hub M2, used as Audio/video, information and communication technology equipment.
2. Circuit characteristics: Only secondary (SELV) circuit.
3. Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.
4. The product power supply to comply with Limited power sources.
6. The specified Max. ambient temperature is +50°C
7. The equipment was evaluated for a maximum operating altitude of 2000m.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)

(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)

Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: 5Vdc input

Source of electrical energy	Corresponding classification (ES)
All electrical circuits in unit	ES1

Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts): PS1

Source of power or PIS	Corresponding classification (PS)
Internal circuits	PS1, resistive PIS
Output circuit (RJ-45 port port)	PS1
Output circuit (USB2.0 port)	PS1

Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component Glycol

Source of hazardous substances	Corresponding chemical
N/A	N/A

Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit MS1

Source of kinetic/mechanical energy	Corresponding classification (MS)
Edges and corners of enclosure	MS1
Equipment mass	MS1

Thermal burn injury (Clause 9)

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure TS1

Source of thermal energy	Corresponding classification (TS)
Accessible parts	TS1

Radiation (Clause 10)

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

Type of radiation	Corresponding classification (RS)
Indicating LEDs	RS1

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
Ordinary	ES1: Internal circuits	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplementar y	Reinforced
Internal circuits	PS1: <15W circuit	See 6.4.5.2	N/A	N/A
Output circuit (RJ-45 port port)	PS1: <15W circuit	N/A	N/A	N/A
Output circuit (USB2.0 port)	PS1: <15W circuit	N/A	N/A	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementar y	Reinforced
N/A (no such sources)	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
Ordinary	MS1: Edges and corners	N/A	N/A	N/A
Ordinary	MS1: Mass of the unit	N/A	N/A	N/A
9.1	Thermal Burn –			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementar y	Reinforced
Ordinary	TS1: Accessible parts	N/A	N/A	N/A
10.1	Radiation			

Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementar y	Reinforced
Ordinary	RS1: Indicating LED	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

Temperature (°C)	20°C to 25°C
Relative Humidity (%)	45% to 55%
Atmospheric Pressure (kPa)	100 kPa to 102 kPa

4.2 Test Equipment List

No.	Equipment name	Manufacture	Serial No.	Due Data	Usage
1	Digital Caliper	CHUANLIANG	BZ-SFT-L003	2021/10/21	√
2	Heating Recorder	Agilent	BZ-SFT-L090	2022/06/03	√
3	350°C High temperature test chamber	CHUANXIN	BZ-SFT-L156	2021/10/19	√
4	Pull and push Tester	AIDEBAO	BZ-SFT-L046	2022/06/03	√
5	Digital Multimeter	VICTOR	BZ-SFT-L089	2022/06/06	√
6	Drop test board	BALUN	BZ-SFT-L059	--	√
7	Electronic Scale	YINGHENG	BZ-SFT-L107	2021/10/19	√
8	Stop Watch	HUIBO	BZ-SFT-L068	2022/06/08	√
9	DC power	ITECH	BZ-SFT-L143	2022/01/24	√
10	Tape Measure	DELI	BZ-SFT-L145	2021/10/21	√
11	DC electronic load	AITAIKESI	BZ-SFT-L027	2021/10/20	√

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
--------	------------------	---------------	---------

5 TEST RESULTS

4	General Requirements		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction	Evaluation of safeguards limiting the source supplying outputs to fulfill ES1, and protection in regard to risk of ignition, mechanical-caused injury and thermal burn considered.	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	No class 3 energy sources inside the EUT.	N/A
4.4.4.2	Steady force tests	(See Annex T.2, T.4)	P
4.4.4.3	Drop tests	(See Annex T.7)	P
4.4.4.4	Impact tests		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests	No such enclosure and barrier	N/A
4.4.4.6	Glass Impact tests		N/A
4.4.4.7	Thermoplastic material tests.....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:		N/A
4.4.4.9	Accessibility and safeguard effectiveness		N/A
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to		P
4.7	Equipment for direct insertion into mains socket - outlets	No such apparatus	N/A
4.7.2	Mains plug part complies with the relevant standard..		N/A
4.7.3	Torque (Nm)		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery :		—
4.8.4	Battery Compartment Mechanical Tests :		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object :		N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications :	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	ES1	P
5.2.2.2	Steady-state voltage and current :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits :		N/A
5.2.2.4	Single pulse limits :	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses :	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringing signals :	No such ringing signals within the EUT	N/A
5.2.2.7	Audio signals :	No such audio signals	N/A
5.3	Protection against electrical energy sources		N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V :		N/A
	b) Electric strength test potential (V) :		N/A
	c) Air gap (mm) :		N/A
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	Insulation materials and requirements		N/A
5.4.1.2	Properties of insulating material		N/A
5.4.1.3	Humidity conditioning :		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
5.4.1.4	Maximum operating temperature for insulating materials		N/A
5.4.1.5	Pollution degree	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage		N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature.....		N/A
5.4.1.10.3	Ball pressure		N/A
5.4.2	Clearances		N/A
5.4.2.2	Determining clearance using peak working voltage	(See only appended table as below)	N/A
5.4.2.3	Determining clearance using required withstand voltage		N/A
	a) a.c. mains transient voltage		—
	b) d.c. mains transient voltage		—
	c) external circuit transient voltage		—
	d) transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages		N/A
5.4.3	Creepage distances.....		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group		—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz :		N/A
5.4.5	Antenna terminal insulation	No such antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance ($M\Omega$) :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard :	No such insulation of internal wire as part of supplementary safeguard.	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%) :		—
	Temperature ($^{\circ}C$) :		—
	Duration (h) :		—
5.4.9	Electric strength test..... :		N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No such external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
5.4.10.2.2	Impulse test.....:		N/A
5.4.10.2.3	Steady-state test		N/A
5.4.11	Insulation between external circuits and earthed circuitry	No such external circuits	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$:		—
5.5	Components as safeguards		
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays	No such component provided	N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable	No such external circuits.	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		NA

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
	Protective earthing conductor size (mm ²):		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).:		—
	Protective current rating (A) :		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm).:		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).:		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current:		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection):		—
	Multiple connections to mains (one connection at a time/simultaneous connections):		—
5.7.4	Earthed conductive accessible parts:		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V):		—
	Measured current (mA):		—
	Instructional Safeguard:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits.	N/A
5.7.6.1	Touch current from coaxial cables		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits	No external circuits.	N/A
	a) Equipment with earthed external circuits Measured current (mA):		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....:		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault..... :	(See appended table 6.2.2)	P
6.2.2.4	PS1 :	(See appended table 6.2.2)	P
6.2.2.5	PS2 :	(See appended table 6.2.2)	N/A
6.2.2.6	PS3 :		N/A
6.2.3	Classification of potential ignition sources	See the following details.	P
6.2.3.1	Arcing PIS :		N/A
6.2.3.2	Resistive PIS :	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials :	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control of fire spread in PS2 circuits	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	No supplementary safeguards needed.	P

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	PS2	N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions..... :	See Table B.4 for details.	N/A
	Special conditions for temperature limited by fuse	No such consideration.	N/A
6.4.4	Control of fire spread in PS1 circuits	No supplementary safeguards needed.	P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		P
6.4.6	Control of fire spread in PS3 circuit		N/A
6.4.7	Separation of combustible materials from a PIS	No PIS exist.	N/A
6.4.7.1	General..... :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Fir enclosures and fire barriers not required.	N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	No need fire enclosure	N/A
	Flammability tests for the bottom of a fire enclosure		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....:	No need fire enclosure	N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances	No such hazardous substances	N/A
7.3	Ozone exposure	No ozone production	N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1 for edges and corners of enclosure on the output side. MS1 for mass of the product	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	No sharp edges and cornners	N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No moving parts	N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test		N/A
8.6	Stability		N/A
8.6.1	Product classification	MS1	N/A
	Instructional Safeguard.....:		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force.....:		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....:		N/A
	Position of feet or movable parts..... :		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force.....:		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable N		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas	(See Annex T)	N/A
	Button/Ball diameter (mm).....:		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	No part considered to be accessible other than enclosure. The equipment evaluated by temperature test (see table 5.4.1.4).	P
9.3	Safeguard against thermal energy sources	Temperature of enclosure and speaker body classed as TS1.	P
9.4	Requirements for safeguards		P

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
9.4.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.4.2	Instructional safeguard:	Instructional safeguard is not required.	N/A

10	RADIATION		P
10.2	Radiation energy source classification	RS1 energy source only	P
10.2.1	General classification		P
10.3	Protection against laser radiation	No laser used	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault:		N/A
	Instructional safeguard:		—
	Tool:		—
10.4	Protection against visible, infrared, and UV radiation	LEDs used, Indicating function	P
10.4.1	General		P
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person:		N/A
	Personal safeguard (PPE) instructional safeguard:		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1:	LED system unit comply with RS1	P
10.4.1.d)	Normal, abnormal, single-fault conditions:	LED used for indicating function considered as exempt group	P
10.4.1.e)	Enclosure material employed as safeguard is opaque:		N/A
10.4.1.f)	UV attenuation:		N/A
10.4.1.g)	Materials resistant to degradation UV:		N/A
10.4.1.h)	Enclosure containment of optical radiation:		N/A
10.4.1.i)	Exempt Group under normal operating conditions:	LED used for indicating function considered as exempt group	P

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....		N/A
	Instructional safeguard for skilled person		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation.....		—
	Abnormal and single-fault condition	(See appended table B.3 & B.4)	N/A
	Maximum radiation (pA/kg).....		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.....		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards.....		N/A
	Equipment safeguard prevent ordinary person to RS2.....		—
	Means to actively inform user of increase sound pressure		—
	Equipment safeguard prevent ordinary person to RS2.....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)	No such device	N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) LAeq acoustic pressure output		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)		—

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements	Maximum rated output applied (See appended table B.2.5)	P
	Audio Amplifiers and equipment with audio amplifiers		N/A
B.2.3	Supply voltage and tolerances	(See appended table B.2.5)	P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector.....	No setting of voltage selector within the EUT	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No replaceable battery used.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited	No such device used.	N/A
B.4.3	Motor tests	No motor used	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4 for faults on electronic components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	No change to circuits classified in 5.3.	P
B.4.9	Battery charging under single fault conditions:		N/A

C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation	No UV radiation within the EUT.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V):		—
	Rated load impedance (Ω):		
E.2	Audio amplifier abnormal operating conditions		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language:	English checked	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	On the bottom of enclosure	N/A
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification:	See copy of marking plate	—
F.3.2.2	Model identification:	See copy of marking plate	—
F.3.3	Equipment rating markings	Provided	P
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains		P
F.3.3.3	Nature of supply voltage:	See copy of marking plate	—
F.3.3.4	Rated voltage:	See copy of marking plate	—
F.3.3.4	Rated frequency:		—
F.3.3.6	Rated current or rated power:	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections	No multiple supply connection.	N/A
F.3.4	Voltage setting device	No such device.	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings:	No mains appliance outlet.	N/A
F.3.5.2	Switch position identification marking:	Not such switch.	N/A
F.3.5.3	Replacement fuse identification and rating markings:		N/A
F.3.5.4	Replacement battery identification marking:	No replaceable battery used.	N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking: IPX0	—	
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area	Not used in restricted access area.	N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

G	COMPONENTS	P
G.1	Switches	N/A
G.1.1	General requirements	N/A
G.1.2	Ratings, endurance, spacing, maximum load	N/A
G.2	Relays	N/A
G.2.1	General requirements	N/A
G.2.2	Overload test	N/A
G.2.3	Relay controlling connectors supply power	N/A
G.2.4	Mains relay, modified as stated in G.2	N/A
G.3	Protection Devices	N/A
G.3.1	Thermal cut-offs	No thermal cut-off used.
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)	N/A
G.3.1.2	Thermal cut-off connections maintained and secure	N/A
G.3.2	Thermal links	N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link used.
G.3.2.1b)	Thermal links tested as part of the equipment	N/A
	Aging hours (H)	—
	Single Fault Condition	—
	Test Voltage (V) and Insulation Resistance (Ω) ..:	—
G.3.3	PTC Thermistors	N/A
G.3.4	Overcurrent protection devices	N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5	N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions	(See appended Table B.4)	N/A
G.4	Connectors		N/A
G.4.1	Spacings	Not directly connected to mains	N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components		N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C).....:		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)		N/A
	Position.....:		—
	Method of protection		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings		—
G.5.3.3	Overload test.....:		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No motor used	N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
	Position:		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days):		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V).....:		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V).....:		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V).....:		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type.....:		—
	Rated current (A).....:		—
	Cross-sectional area (mm ²), (AWG).....:		—

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)	:	—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....:		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry	:	(See appended table 5.4.11.1)
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)	:	—
	Diameter (m)	:	—
	Temperature (°C).....	:	—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements	No varistors used.	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test.....:		N/A
G.8.3.3	Temporary overvoltage.....:		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such IC used.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA	:	—
G.9.1 d)	IC limiter output current (max. 5A)	:	—
G.9.1 e)	Manufacturers' defined drift	:	—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		N/A
G.11.1	General requirements	No such components used	N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:		N/A
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board or over the outer surface of coated printed boards complied with the minimum clearance and creepage requirements of 5.4.2 and 5.4.3.	P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
	Distance through insulation:	(See appended table 5.4.4.5)	N/A
	Number of insulation layers (pcs):		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements:	(See G.13)	N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage:		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage:		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance:		—
D3)	Resistance:		—

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict

H	CRITERIA FOR TELEPHONE RINGING SIGNALS	N/A
H.1	General	N/A
H.2	Method A	N/A
H.3	Method B	N/A
H.3.1	Ringing signal	N/A
H.3.1.1	Frequency (Hz):	—
H.3.1.2	Voltage (V):	—
H.3.1.3	Cadence; time (s) and voltage (V):	—
H.3.1.4	Single fault current (mA):	—
H.3.2	Tripping device and monitoring voltage:	N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with	N/A
H.3.2.2	Tripping device	N/A
H.3.2.3	Monitoring voltage (V):	—

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION	N/A
	General requirements	(See separate test report)

K	SAFETY INTERLOCKS	N/A
K.1	General requirements	No safety interlocks inside the EUT
K.2	Components of safety interlock safeguard mechanism	N/A
K.3	Inadvertent change of operating mode	N/A
K.4	Interlock safeguard override	N/A
K.5	Fail-safe	N/A
	Compliance:	N/A
K.6	Mechanically operated safety interlocks	N/A
K.6.1	Endurance requirement	N/A
K.6.2	Compliance and Test method:	N/A
K.7	Interlock circuit isolation	N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test	(See appended table 5.4.11)	N/A
L DISCONNECT DEVICES			
L.1	General requirements		N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
M EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS			
M.1	General requirements	No battery used	N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature:		—
M.4.2.2 b)	Single faults in charging circuitry:		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method):		N/A
M.6.2	Leakage current (mA):		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m^3/s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A

N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used	Pollution degree considered	—

O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES	N/A
	Figures O.1 to O.20 of this Annex applied	—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements	No openings on equipment.	P
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	T _c (°C) :		—
	T _r (°C) :		—
	T _a (°C) :		—
P.4.2 b)	Abrasion testing :	(See G.13.6.2)	N/A
P.4.2 c)	Mechanical strength testing :	(See Annex T)	N/A

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING	P
Q.1	Limited power sources	P
Q.1.1 a)	Inherently limited output	N/A
Q.1.1 b)	Impedance limited output	P
	- Regulating network limited output under normal operating and simulated single fault condition	(See appended table Annex Q.1)
Q.1.1 c)	Overcurrent protective device limited output	N/A
Q.1.1 d)	IC current limiter complying with G.9	N/A
Q.1.2	Compliance and test method	(See appended table Annex Q.1)
Q.2	Test for external circuits – paired conductor cable	N/A
	Maximum output current (A) :	—
	Current limiting method..... :	—

R	LIMITED SHORT CIRCUIT TEST	N/A
R.1	General requirements	N/A
R.2	Determination of the overcurrent protective device and circuit	N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). :	N/A

S	TESTS FOR RESISTANCE TO HEAT AND FIRE	N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (test condition), (°C).....		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
--------	------------------	---------------	---------

T	MECHANICAL STRENGTH TESTS	P
T.1	General requirements	P
T.2	Steady force test, 10 N	See table annex T.2
T.3	Steady force test, 30 N	N/A
T.4	Steady force test, 100 N	See table annex T.4
T.5	Steady force test, 250 N	N/A
T.6	Enclosure impact test	N/A
	Fall test	N/A
	Swing test	N/A
T.7	Drop test	See table annex T.7
T.8	Stress relief test	See table annex T.8
T.9	Impact Test (glass)	N/A
T.9.1	General requirements	N/A
T.9.2	Impact test and compliance	N/A
	Impact energy (J).....	—
	Height (m)	—
T.10	Glass fragmentation test	N/A
T.11	Test for telescoping or rod antennas	N/A
	Torque value (Nm)	—

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION	N/A
U.1	General requirements	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs	N/A
U.3	Protective Screen.....	N/A

V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)	N/A
V.1	Accessible parts of equipment	N/A
V.2	Accessible part criterion	N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1

(AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment)

Differences according to : AS/NZS 62368.1:2018**TRF template used:**: IECEE OD-2020-F3, Ed. 1.1**Attachment Form No.**: AU_NZ_ND_IEC62368_1D**Attachment Originator**.....: JAS-ANZ**Master Attachment**.....: 2021-04-19**Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.**

	National Differences	P
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand	P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)	P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:	P
2	<p>Add the following to the list of normative references:</p> <p>The following normative documents are referenced in Appendix ZZ:</p> <ul style="list-style-type: none">-AS/NZS 3112, Approval and test specification—Plugs and socket-outlets-AS/NZS 3123, Approval and test specification—Plugs, socket-outlets and couplers for general industrial application-AS/NZS 3191, Electric flexible cords-AS/NZS 60065, Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)-AS/NZS 60320.1, Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)-AS/NZS 60320.2.2, Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)	P

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
	<p>-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></p> <p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p> <p>-AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.1.1	<p>Application of requirements and acceptance of materials, components and subassemblies</p> <p>1 Replace the text ‘IEC 60950-1’ with ‘AS/NZS 60950.1:2015’.</p> <p>2 Replace the text ‘IEC 60065’ with ‘AS/NZS 60065’.</p>		P
4.7	<p>Equipment for direct insertion into mains socket-outlets</p>		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
4.7.2	<p>Requirements</p> <p><i>Delete</i> the text of the second paragraph and <i>replace</i> with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		N/A
4.7.3	<p>Compliance Criteria</p> <p><i>Delete</i> the first paragraph and Note 1 and Note 2 and <i>replace</i> with the following:</p> <p><i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i></p>		N/A
4.8	<p><i>Delete</i> existing clause title and <i>replace</i> with the following:</p> <p>4.8 Products containing coin/button cell batteries</p>		N/A
4.8.1	<p>General</p> <p>1 Second dashed point, <i>delete</i> the text and <i>replace</i> with the following: – include coin/button cell batteries with a diameter of 32 mm or less.</p> <p>2 After the second dashed point, <i>insert</i> the following Note:</p> <p>NOTE 1: Batteries are specified in IEC 60086-2.</p> <p>3 After the third dashed point, <i>renumber</i> the existing Note as 'NOTE 2'.</p> <p>4 Fifth dashed point, <i>delete</i> the word 'lithium'.</p>	No coin/button cell batteries used.	N/A
4.8.2	<p>Instructional Safeguard</p> <p>First line, <i>delete</i> the word 'lithium'.</p>		N/A
4.8.3	<p>Construction</p> <p>First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'</p>		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict																		
4.8.5	<p>Compliance criteria</p> <p><i>Delete the first paragraph and replace with the following:</i></p> <p><i>Compliance is checked by applying a force of 30 N +/- 1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.</i></p>		N/A																		
5.4.10.2	Test methods		N/A																		
5.4.10.2.1	<p>General</p> <p><i>Delete the first paragraph and replace with the following:</i></p> <p>In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.</p>		N/A																		
Table 29	<i>Replace the table with the following:</i>		N/A																		
<table border="1"> <thead> <tr> <th rowspan="2">Parts</th> <th colspan="2">Impulse test</th> <th colspan="2">Steady state test</th> </tr> <tr> <th>New Zealand</th> <th>Australia</th> <th>New Zealand</th> <th>Australia</th> </tr> </thead> <tbody> <tr> <td>Parts indicated in Clause 5.4.10.1 a)^a</td> <td>2.5 kV 10/700 µs</td> <td>7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs</td> <td>1.5 kV</td> <td>3 kV</td> </tr> <tr> <td>Parts indicated in Clause 5.4.10.1 b) and c)^b</td> <td>1.5 kV 10/700 µs^c</td> <td></td> <td>1.0 kV</td> <td>1.5 kV</td> </tr> </tbody> </table>			Parts	Impulse test		Steady state test		New Zealand	Australia	New Zealand	Australia	Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV	Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV 10/700 µs ^c		1.0 kV	1.5 kV
Parts	Impulse test			Steady state test																	
	New Zealand	Australia	New Zealand	Australia																	
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV																	
Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV 10/700 µs ^c		1.0 kV	1.5 kV																	
<p>^a Surge suppressors shall not be removed.</p> <p>^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.</p> <p>^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.</p>																					
5.4.10.2.2	<p>After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows:</p> <p>NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>		N/A																		

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	Electrically-caused fire		N/A
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202		N/A
6.6	After Clause 6.6, add the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)		N/A
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	Stability of equipment		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
8.6.1 and Table 36	<p>Requirements</p> <p>1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows:</p> <ul style="list-style-type: none"> ◦ The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. <p>2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements'</p> <p>3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements'</p> <p>4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply.</p> <p>5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'</p>		N/A
8.6.1	<p>After Clause 8.6.1 <i>add</i> the following new clauses:</p> <p>8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)</p>		N/A
Annex F Paragraph F.3.5.1	<p>Mains appliance outlet and socket-outlet markings</p> <p>Replace 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.</p>		N/A
Annex G Paragraph G.4.2	<p>Mains connectors</p> <p>1 In the second line <i>insert</i> 'or AS/NZS 3123' after 'IEC 60906-1'.</p> <p>2 In the second line <i>insert</i> 'or AS/NZS 60320 series' after 'IEC 60320 series'</p> <p>3 <i>Add</i> the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.</p>		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
Paragraph G.5.3.1	<p>Transformers, General</p> <p>1 In the third dashed point <i>replace</i> 'IEC 61558-1' and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2'</p> <p>2 In the fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.</p>	Replaced	N/A
Paragraph G.7.1	<p>Mains supply cords, General</p> <p>In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'</p>	No such cord provided	N/A
Table G.5	<p>Sizes of conductors</p> <p>1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5'</p> <p>2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75^b</p> <p>3 <i>Delete</i> Note 1.</p> <p>4 <i>Replace</i> 'NOTE 2' with 'NOTE:'.</p> <p>5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> with the following: <small>^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).</small></p> <p>6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'</p> <p>7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'</p>		N/A
Annex M Paragraph M.3.2	<p>Protection circuits for batteries provided within the equipment, Test method</p> <p>After the first dashed point <i>add</i> the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.</p>		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
	Special national conditions (if any)		N/A
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— <ul style="list-style-type: none">– at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and– of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. <p><i>Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4</i></p>		N/A
6.202	Resistance to fire—Alternative tests		N/A
6.202.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: <ol style="list-style-type: none">a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.b) The following parts which would contribute negligible fuel to a fire:<ul style="list-style-type: none">– small mechanical parts, the mass of which does		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
	<p>not exceed 4 g, such as mounting parts, gears, cams, belts and bearings;</p> <p>– small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10.</p> <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.</p>		
	<p><i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i></p> <p>For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>		N/A
6.202.2	<p>Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.</p>		N/A

IEC 62368-1							
Clause	Requirement-Test	Result-Remark	Verdict				
6.202.3	<p>Testing of insulating materials</p> <p>Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE: Contacts in components such as switch contacts are considered to be connections</p>		N/A				
	<p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test.</p> <p>However, parts shielded by a barrier which meets the needle-flame test need not be tested</p>		N/A				
	<p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table border="1"><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr></table> <p>9.2 Application of needle-flame</p> <p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s 1</p>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure			N/A
Clause of AS/NZS 60695.11.5	Change						
9 Test procedure							

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
	<p>9.3 Number of test specimens</p> <p>Replace with the following:</p> <p>The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p> <p>11 Evaluation of test results</p> <p>Replace with the following:</p> <p>The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.</p>		
6.202.4	<p>Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 2: If other parts do not withstand the glow-wire test due to</p>		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
	<p>ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		
6.202.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p> <p>The test is not carried out if—</p> <ul style="list-style-type: none">– the printed board does not carry any potential ignition source;– the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or– the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill	N/A	

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
	<p>the openings completely.</p> <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		
6.202.6	<p>For open circuit voltages greater than 4 kV</p> <p>Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.</p>		N/A
8.6.1.201	<p>8.6.1.201 Instructional safeguard for fixed-mount television sets</p> <p>MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall or ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment.</p> <p>The elements of the instructional safeguard shall be as follows:</p> <ul style="list-style-type: none">– element 1a: not available;– element 2: ‘Stability Hazard’ or equivalent wording;– element 3: ‘The television set may fall, causing serious personal injury or death’ or equivalent text;– element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict
8.6.1.202	<p>Restraining device</p> <p>MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage.</p> <p>Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.</p>		N/A

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
--------	------------------	---------------	---------

4.1.2		TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹)	
PCB	KINGBOARD LAMINATES HOLDINGS LTD	KB-6165F, KB-616A, KB-616(X)	V-0, 130°C Min. thickness: 0.71mm	UL 796 UL 94	UL E123995	
Plastic enclosure	LG CHEM LTD	LUPOY GN-1006F	V-2, 110°C, Min.thickness: 1.5mm	UL 746, UL94	UL E67171	
- Alternative	Covestro Deutschland AG [PC Resins]	6557+(z)(f1)	V-2, 115°C, Min.thickness: 1.5mm	UL 746, UL94	UL E41613	
Speaker	Huizhuo Kiss-jia Industry co. LTD.	KSJ0028M-4600 8R	8 ohms, 1W	IEC/EN 62368-1	Tested within appliance	

Supplementary information:

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	TABLE: Stress relief test		—
	Part	Material	Oven Temperature (°C)
4.8.4.3	TABLE: Battery replacement test		—
Battery part no.....:			—
Battery Installation/withdrawal		Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	TABLE: Drop test		—
Impact Area	Drop Distance	Drop No.	Observations
		1	
		2	
		3	
4.8.4.5	TABLE: Impact		—
Impacts per surface	Surface tested	Impact energy (Nm)	Comments
4.8.4.6	TABLE: Crush test		—
Test position	Surface tested	Crushing Force (N)	Duration force applied (s)

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
--------	------------------	---------------	---------

--	--	--	--

Supplementary information:

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result			N/A
Test position		Surface tested	Force (N)	Duration force applied (s)

Supplementary information:

5.2	Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions						
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions ¹⁾	Parameters		
1	5VDC	DC input terminal	Normal	U (Vrms or Vpk)	I (Apeak or Aroot)	Hz
			Abnormal	--	--	--
			Single fault	--	--	--

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	--
			Single fault – SC/OC	--	--	--

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	

IEC 62368-1

Clause	Requirement-Test	Result-Remark			Verdict
--------	------------------	---------------	--	--	---------

		Single fault - SC/OC	--	--	--	
--	--	-------------------------	----	----	----	--

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault - SC/OC	--	--	--	

Test Conditions:

Normal – Full load and no load.

Abnormal – Overload output

Supplementary information: SC=Short Circuit, OC=Open Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements						P
Supply voltage (V) :		5Vdc		--	--	--	
Ambient T _{min} (°C) :		--	--	--	--	--	
Ambient T _{max} (°C) :		--	--	--	--	--	
Tma (°C) :		--	--	--	--	--	
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)	
MircoUSB connector	34.8	62.3	--	--	--	--	Ref.
USB connector	36.6	64.1	--	--	--	--	130
PCB near U14	51.9	79.4	--	--	--	--	130
PCB near U9	29.1	56.6	--	--	--	--	130
PCB near U10	38.2	65.7	--	--	--	--	130
Enclosure inside near U14	36.1	63.6	--	--	--	--	130
Ambient	22.5	50.0	--	--	--	--	--
Touch temperature							
Enclosure outside near U14	23.6	26.1	--	--	--	--	77
Ambient	22.5	25.0	--	--	--	--	--

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
--------	------------------	---------------	---------

Supplementary information: * Temperature limit for TS1 of accessible enclosure according to Table 38.

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 50°C.

Note 2: The temperatures were measured under the worst case normal mode defined in clause B.2.1.

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

5.4.1.8	Table: working voltage measurement				N/A
Location		RMS voltage (V)	Peak voltage (V)	Comments	
--		--	--	--	
supplementary information:					

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics			N/A
Penetration (mm)				
Object/ Part No./Material		Manufacturer/trademark		T softening (°C)
--		--		--
supplementary information:				

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics				N/A
Allowed impression diameter (mm)			≤ 2 mm		—
Object/Part No./Material		Manufacturer/trademark		Test temperature (°C)	Impression diameter (mm)
--		--		--	--
Supplementary information:					

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance							N/A
Clearance (cl) and creepage distance (cr) at/of/between:		Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
--		--	--	--	--	--	--	--
Supplementary information:								

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage				N/A
---------	--	--	--	--	-----

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
	Overvoltage Category (OV):		
	Pollution Degree:		
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
--	--	--	--
Supplementary information:			

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
--		--	--	--
Supplementary information:				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					N/A
Distance through insulation di at/of:		Peak voltage (V)	Frequency (Hz)	Material	Required DTI (mm)	DTI (mm)
--		--	--	--	--	--
Supplementary information: Not exceed the ES2 limit						

5.4.9	TABLE: Electric strength tests				N/A
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No	
--		--	--	--	--
Supplementary information:					

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz		Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
--		--	--	--	--	--
Supplementary information:						

5.6.6.2	TABLE: Resistance of protective conductors and terminations					N/A
---------	--	--	--	--	--	-----

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
Supplementary Information:			

5.7.2.2, 5.7.4	TABLE: Earthing accessible conductive part		N/A
Supply voltage..... :	264Vac	—	
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
	1 (e closed, normal and reverse polarity p)		
	2* (natural open (switch n), earth intact and normal polarity, again in reverse polarity (switch p))		
	3 (for IT system, each phase conductor faulted to earth, one at a time (switch g))		
	4 (for three-phase, each phase conductor open, one at a time switches l))		
	5 (IT power system or three phase delta system)		
	6 (three-phase for use on centre-earthed delta supply system)		
	8 (incidental electrically connected to other parts)		

Notes:

- [1] Supply voltage is the anticipated maximum Touch Voltage
- [2] Earthed neutral conductor [Voltage differences less than 1% or more]
- [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3
- [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.
- [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.
- a) Not considered IT power system.

IEC 62368-1

Clause	Requirement-Test	Result-Remark	Verdict
--------	------------------	---------------	---------

- b) Not three phase equipment.
c) Not IT power system or three phase delta system.
d) Not three-phase for use on centre-earthed delta supply system.
e) Not such parts.

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*	PS Classification	
Output of RJ-45 port	Normal operation	Power (W) : 0	0	--	PS1	
		V _A (V) : 0	0	--		
		I _A (A) : 0	0	--		
Output of USB2.0 port	Normal operation	Power (W) : 8.54	8.54	--	PS1	
		V _A (V) : 2.85	2.85	--		
		I _A (A) : 3.0	3.0	--		

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)					N/A
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No		
See below	--	--	--	--		--
Supplementary information:						

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)					P
Circuit Location (x-y)	Operating Condition (Normal /Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No	
Internal circuits	--	--	--	--	Yes	

IEC 62368-1			
Clause	Requirement-Test	Result-Remark	Verdict

Supplementary Information:

All power dissipating components in primary and secondary circuit which are supplied by a source exceeding 15W (since the output rating is higher than 15VA) are considered as resistive PIS.

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

8.5.5	TABLE: High Pressure Lamp	N/A
Description	Values	Energy Source Classification
Lamp type		—
Manufacturer.....		—
Cat no.		—
Pressure (cold) (MPa)		MS_
Pressure (operating) (MPa).....		MS_
Operating time (minutes).....		—
Explosion method.....		—
Max particle length escaping enclosure (mm)..		MS_
Max particle length beyond 1 m (mm)		MS_
Overall result		
Supplementary information:		

B.2.5	TABLE: Input test	P					
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
5	0.62	2.0	3.1	--	--	--	Max. Operating condition with USB 2.0 output port load 0.5A
Supplementary information:							

B.3 & B.4	TABLE: Abnormal operating and fault condition tests	P
-----------	---	---

IEC 62368-1										
Clause	Requirement-Test				Result-Remark		Verdict			
Ambient temperature (°C)				: 25°C, if not specified			—			
Power source for EUT: Manufacturer, model/type, output rating ..				: --			—			
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current (A)	T-coupl e	Temp. (°C)	Observation		
ventilation opening	Covering of ventilation openings	5VDC	10min	--	--	--	Max Temp: Enclosure outside near U14: 29.1 Ambient: 23.2	Unit normal operation No damaged, No hazard.		
USB 2.0 output port	O-L	5VDC	10min	--	--	--	Max Temp: Enclosure outside near U14: 32.1 Ambient:23.2	Input current:3.12A Max. loading current is 3A, when over 3A, USB output shutdown, other function remain normal. No hazard.		
USB 2.0 output port	S-C	5VDC	10min	--	--	--	--	Input current: 0A Unit shutdown immediately, recoverable after fault condition removed. No hazard		
C96	S-C	5VDC	10min	--	--	--	--	Input current: 0A Unit shutdown immediately, recoverable after fault condition removed. No hazard		
Supplementary information:										
1) S-C: Short-circuited; O-C: Open-circuited; O-L: Overloaded; OVC=Overcharge.										
2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.										

Annex M	TABLE: Batteries	N/A
The tests of Annex M are applicable only when appropriate battery data is not available		N/A
Is it possible to install the battery in a reverse polarity position?	Impossible	N/A
	Non-rechargeable batteries	Rechargeable batteries

IEC 62368-1

Clause	Requirement-Test				Result-Remark				Verdict
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. Current	Manuf. Specs.	Meas. Current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
<hr/>									
Test results:									Verdict
- Chemical leaks						--			N/A
- Explosion of the battery						--			N/A
- Emission of flame or expulsion of molten metal						--			N/A
- Electric strength tests of equipment after completion of tests						--			N/A
Supplementary information:									

Annex M.4	TABLE: Additional safeguards for equipment containing secondary lithium batteries					N/A
Battery/Cell No.	Test conditions	Measurements			Observation	
		U	I (A)	Temp (°C)		
--	Normal	--	--	--	--	
	Abnormal	--	--	--	--	
	Single fault	--	--	--	--	
Supplementary Information:						
Battery identification	Charging at T_{lowest} (°C)	Observation		Charging at T_{highest} (°C)	Observation	
--	--	--		--	--	
Supplementary Information:						

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)	S (VA)	Meas.	Limit
			Meas.	Limit	Meas.	Limit

IEC 62368-1						
Clause	Requirement-Test			Result-Remark		Verdict
Output of RJ-45 port	Normal operation	0	0	8	0	100
Output of USB2.0 port	Normal operation	5.01	3.0	8	8.54	100
Supplementary Information: S-C: Short-circuited						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal wirings/components	--	--	10	5	Enclosure remained intact, no crack/opening developed; No insulation breakdown.	
Enclosure	Plastic	2.0	100	5	Enclosure remained intact, no crack/opening developed; No insulation breakdown.	
Supplementary information:						

T.6, T.9	TABLE: Impact tests					N/A
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation		
--	--	--	--	--		
Supplementary information:						

T.7	TABLE: Drop tests					P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation		
EUT	Plastic	2.0	1000	Enclosure remained intact, no crack/ opening developed. No hazard.		
Supplementary information:						

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	

IEC 62368-1

Clause	Requirement-Test		Result-Remark		Verdict
Enclosure	Plastic	2.0	70	7	Enclosure remained intact, no crack/ opening developed. No hazard.
Supplementary information:					

6 Product Marking Label



Ref. Label of EUT

7 PHOTO DOCUMENT

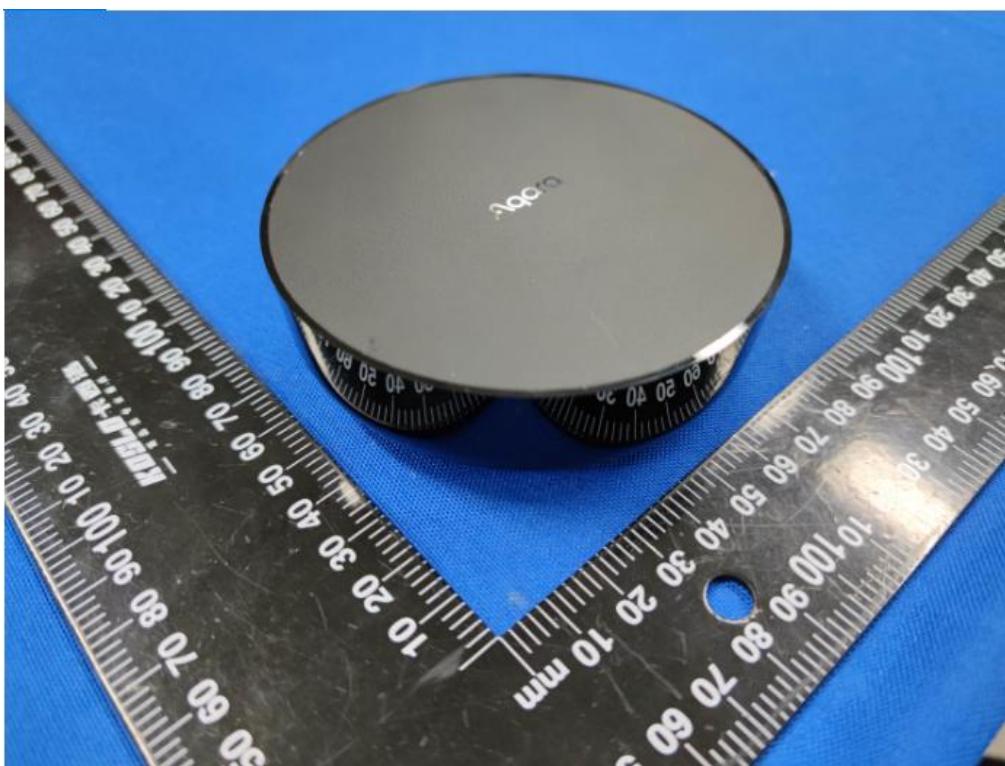


Figure 1. Overall view

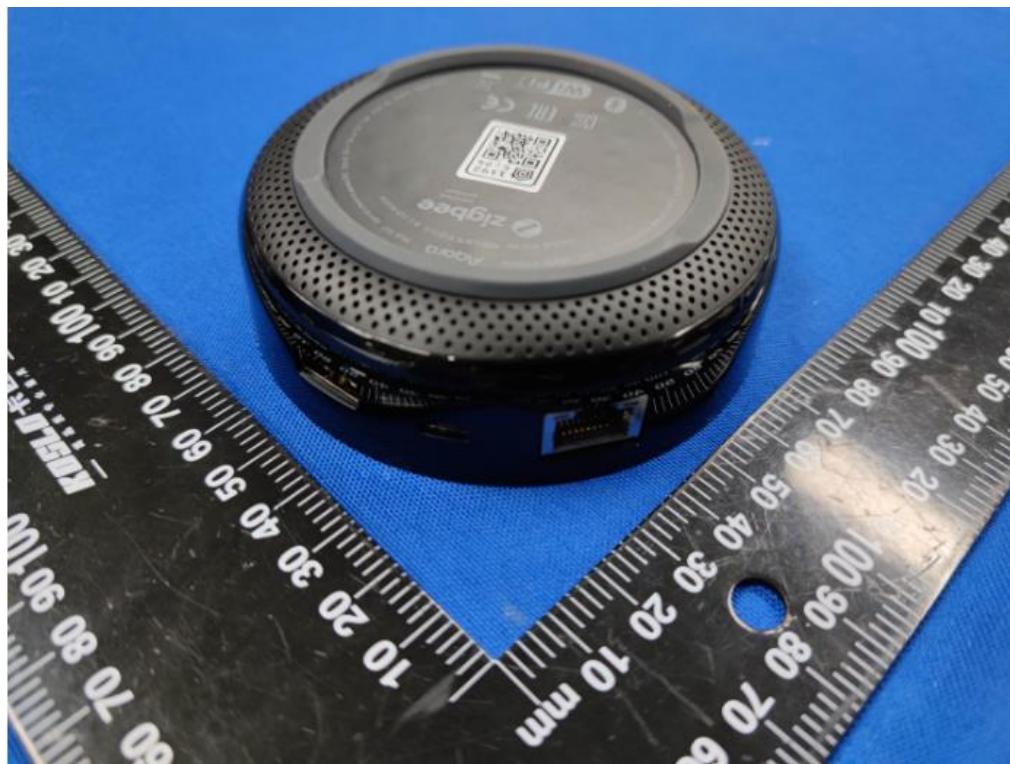


Figure 2. Overall view

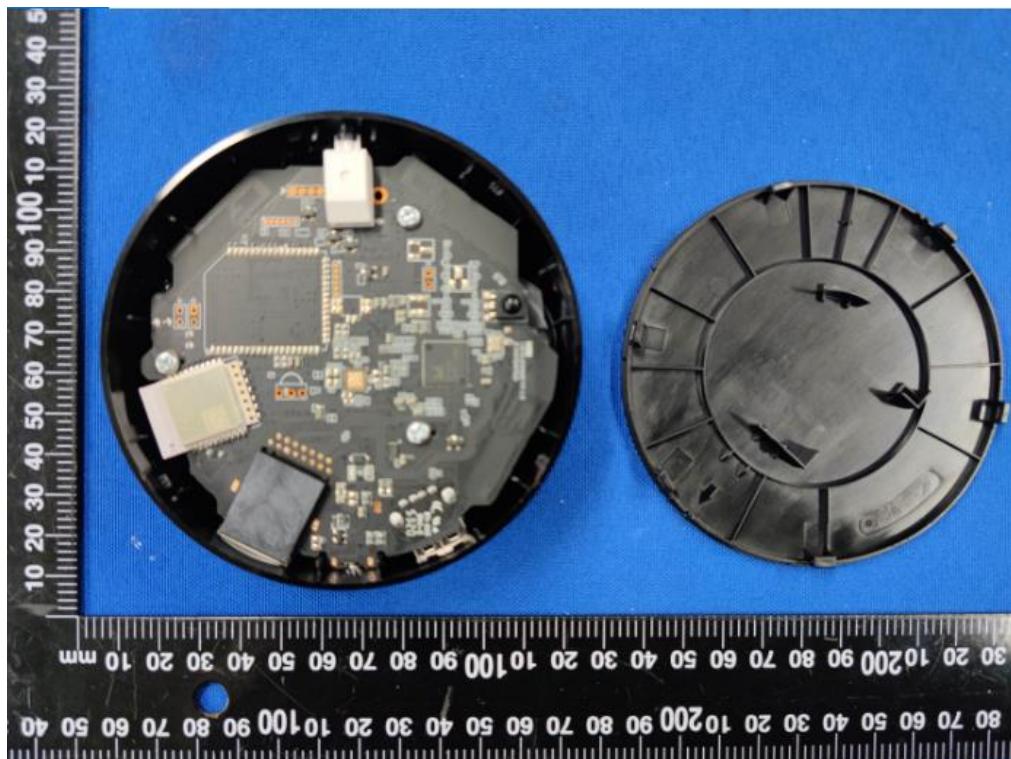


Figure 3. Internal view

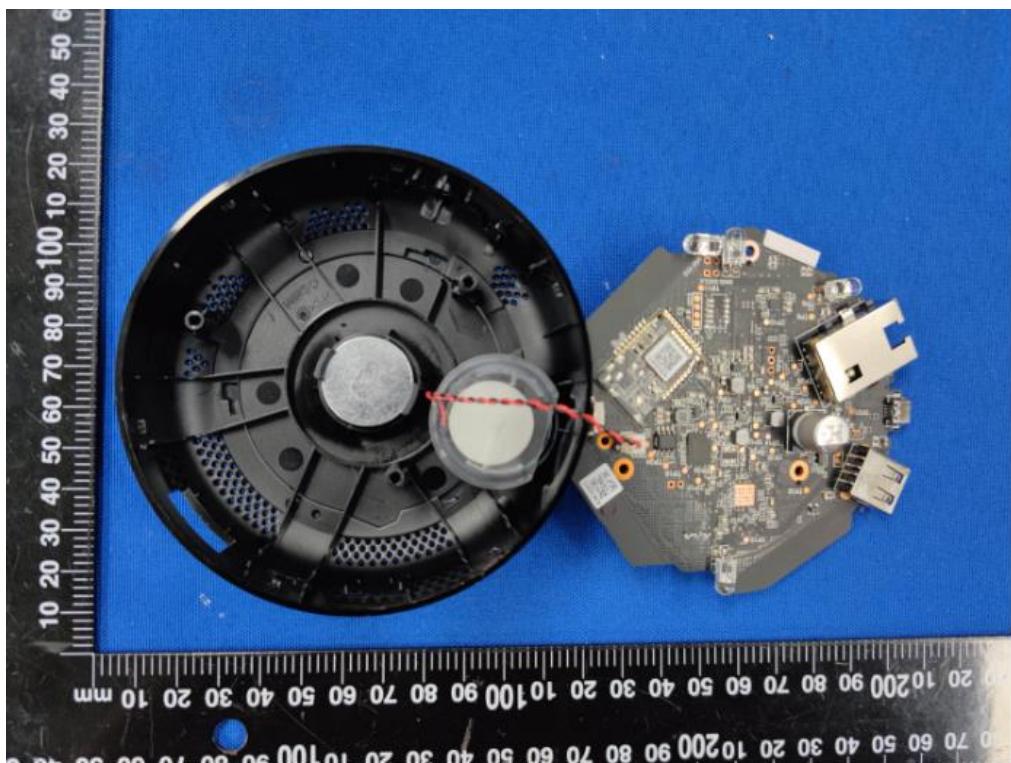


Figure 4. Internal view

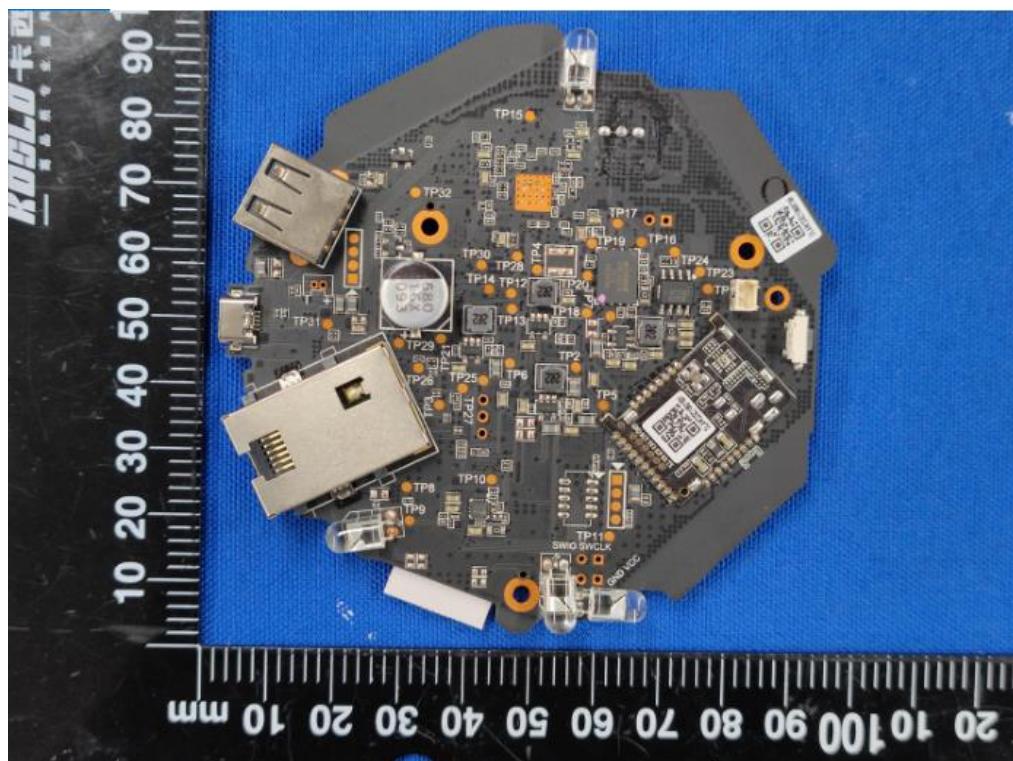


Figure 5. PCB top view

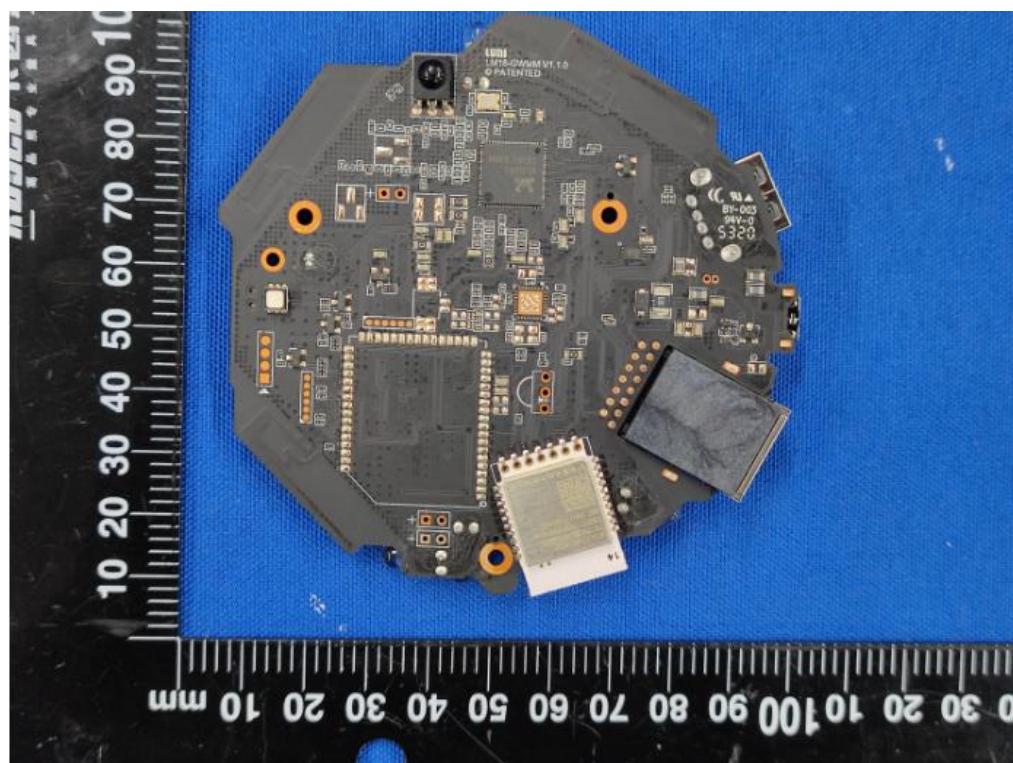


Figure 6. PCB bottom view

--The end of test report--